IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121.

1. – 35. (canceled)

36. (currently amended) A method for determining the state of a switching system comprising:

receiving a plurality of input signal values from a respective plurality of sensors activated by an object;

comparing the input signal values to at least one region of signal values corresponding to anticipated values of the input signals derived from anticipated variations of the input signals based at least upon a type of object activating the sensors or anticipated noise at the sensors, wherein the input signal values are redundantly compared to the anticipated values to verify that all input signal values considered correspond to an ON state prior to determining that the system should be placed into an ON state; and

determining a state of the switching system based upon the comparison.

37. (original) The method of claim 36, wherein the input signal values are based on accumulated values of sampled signals.

38. (cancelled)

39. (original) The method of claim 36, wherein the sensors are capacitive sensors for detecting capacitive coupling with the object, and wherein the input signal values correspond to capacitive coupling of each of the plurality of sensors to earth, and capacitive coupling of each of the plurality of sensors to one another.

40. (original) The method of claim 36, wherein the state is determined from one of a plurality of possible states, including an ON state, an OFF state and a FAULT state.

41. (currently amended) The method of claim 40, wherein from the FAULT state the switching system cannot be placed in the ON state ~~without first being placed in the OFF state~~ until an input exceeds a preset threshold value.

42. (currently amended) The method of claim 40, wherein [[the FAULT]] a NOISY state is determined when noise in the input signal values is determined to be high.

43. (currently amended) The method of claim 40, wherein the comparison is at least partially based upon a ~~boundary~~ limit between the ON state and the FAULT state.

44. (currently amended) The method of claim 43, wherein the ~~boundary~~ limit comprises a line.

45. (original) The method of claim 36, wherein the at least one combination of ranges of signal values corresponds to anticipated input signals received from a plurality of sensors activated by a naked human hand.

46. (original) The method of claim 36, wherein the object is a gloved human hand.

47. (cancelled)

48. (cancelled)

49. (original) A method for determining the state of a switching system comprising:

sensing a plurality of input signals from a respective plurality of sensors activated by

an object, at least a portion of the input signals based upon interaction of the sensors with one another;

redundantly comparing values of the input signals to at least one combination of ranges of signal values corresponding to anticipated regions of values of the input signals derived from anticipated variations of the input signals based at least upon a type of object activating the sensors or anticipated noise at the sensors;

determining a state of the switching system based upon the comparison; and

generating an output signal based upon the determined state.

50. (original) The method of claim 49, wherein the input signal values are accumulated values of sampled signals.

51. (original) The method of claim 49, wherein the sensors are capacitive sensors detecting capacitive coupling with the object, and wherein the input signal values correspond to capacitive coupling of each of the plurality of sensors to earth, and capacitive coupling of each of the plurality of sensors to one another.

52. (original) The method of claim 49, wherein the state is determined from one of a plurality of possible states including an ON state, an OFF state, and a FAULT state.

53. (original) The method of claim 52, wherein from the FAULT state the switching system cannot be placed in the ON state without first implementing a reset sequence for the sensors.

54. (original) A method for determining the state of a switching system comprising:

measuring a plurality of input signal values from a respective plurality of sensors activated by an object;

comparing the input signal values to at least one predetermined combination of regions of signal values to determine a state of the switching system, the states including an OFF state, an ON state and a FAULT state, and wherein from the FAULT state the switching system cannot be placed in the ON state without first implementing a reset sequence for the sensors; and

generating an output signal corresponding to the state.

55. (original) The method of claim 54, wherein the reset sequence includes monitoring the input signal values until the values indicate that the sensors are no longer activated.

56. (original) The method of claim 54, wherein the sensors are capacitive sensors, and wherein the input signal values correspond to capacitive coupling of each of the plurality of sensors to earth, and capacitive coupling of each of the plurality of sensors to one another.

57. (original) The method of claim 54, wherein comparing includes comparing the capacitive coupling of each sensor to earth, and the capacitive coupling of each sensor to one another with a combined threshold.

58. (original) The method of claim 57 wherein the combined threshold is derived from anticipated variations of the input signals based at least upon a type of object activating the sensors or anticipated noise at the sensors.

59. (original) A method for determining the state of a switching system comprising:

measuring a plurality of input signal values from a respective plurality of capacitive sensors activated by an object, the input signal values corresponding to capacitive coupling of each of the plurality of sensors to earth, and capacitive coupling of each of the plurality of sensors to one another through the object;

comparing the capacitive coupling of each sensor to earth, and the capacitive coupling of each sensor to one another with a combined threshold to at least one predetermined combination of regions of signal values to determine a state of the switching system, the states including an OFF state, an ON state and a FAULT state; and

generating an output signal corresponding to the state.

60. (currently amended) A system for determining the state of a switching system comprising:

a first and second capacitive sensors for detecting capacitive coupling with earth due to the presence of an object, and with one another;

a sampling circuit for sampling input signals from the first and second capacitive sensors and for generating input signal values based thereon;

~~a memory device for storing a plurality of anticipated ranges of input signal values~~; and

a processing circuit for comparing the input signal values with [[the]] anticipated regions of input signal values to determine a state of the switching system, the regions being derived from anticipated variations of the input signals based at least upon a type of object activating the sensors or anticipated noise at the sensors.

61. (original) The system of claim 59, wherein the sampling circuit is configured to accumulate sampled signals to generate the input signal values.

62. (currently amended) A system for determining the state of a switching system comprising:

two sensors for generating signals that vary with the presence of an object;

a sampling circuit for sampling the signals from the two sensors and for generating signal values based thereon, the signal values corresponding to capacitive coupling of each of the plurality of sensors to earth, and capacitive coupling of each of the plurality of sensors to one another through the object;

~~a memory circuit for storing anticipated regions of the signal values~~; and

a processing circuit for comparing the signal values with [[the]] anticipated regions of the signal values to determine a state of the switching system, the processing circuit being configured to compare the capacitive coupling of each sensor to earth, and the capacitive coupling of each sensor to one another with a combined threshold to at least one predetermined combination of regions of signal values to determine the state of the switching system, the states including an OFF state, an ON state and a FAULT state.

63. (original) The system of claim 61, wherein the processing circuit is configured to generate an output signal that corresponds to the state of the switching system.

64. (original) The system of claim 61, wherein the combined threshold is derived from anticipated variations of the input signals based at least upon a type of object activating the sensors or anticipated noise at the sensors.

65. (original) The system of claim 61, wherein from the FAULT state the switching system cannot be placed in the ON state without first implementing a reset sequence for the sensors.